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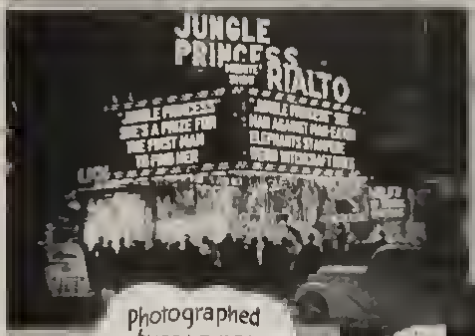

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- Other interesting stories are in preparation that should make the March issue rich in good reading matter for those interested in cinematography

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THE AMERICAN SOCIETY OF CINEMATOGRAPHERS was founded in 1918 for the purpose of bringing into closer confederation and cooperation all those leaders in the cinematographic art and science whose aim is and ever will be to strive for pre-eminence in artistic perfection and technical mastery of this art and science. Its purpose is to further the artistic and scientific advancement of the cinema and its allied crafts through unceasing research and experimentation as well as through bringing the artists and the scientists of cinematography into more intimate fellowship. To this end its membership is composed of the outstanding cinematographers of the world with Associate and Honorary memberships bestowed upon those who, though not active cinematographers are engaged none the less in kindred pursuits, and who have by their achievements, contributed outstandingly to the progress of cinematography as an Art or as a Science. To further these lofty aims and to fittingly chronicle the progress of cinematography the Society's publication, The American Cinematographer, is dedicated.

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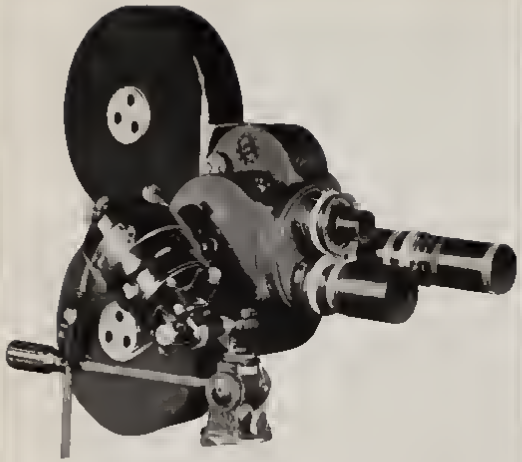

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American
Cinematographer

February
1937

Industry Pays Glowing Tribute to Adolph Zukor

THE AMERICAN SOCIETY of Cinematographers the oldest organization in the motion picture business, wishes to add its congratulations to those extended by the rest of the industry to Adolph Zukor on his 25th anniversary in the motion picture business.

The daily and motion picture press throughout the country has told of the history made by Adolph Zukor. They have told of his modest beginning, his courage his foresight and of his influence on the whole motion picture structure.

We feel the motion picture business is fortunate that it has had an Adolph Zukor Every important business must have an outstanding business executive Such men as Charles Schwab left an indelible mark on steel Henry Ford on the automotive industry, Firestone on tires and so on down through some of the key industries of this country.

Adolph Zukor for twenty-five years has been synonymous with advancement in the motion picture industry His company was among the very first to see the advance of pictures He had a vision in the days when others believed it was merely a passing novelty to see that it would expand into more detailed stories and on to longer than one and two reel subjects.

His vision dictated that prominent stage names would be valuable to the box office because those were days when big names would appear only in the key cities of the country. The small theatres, small audiences and expensive jumps by railroad would not permit extensive travel

That Adolph Zukor was vindicated in his judgment is demonstrated by the advancement the business made under that very idea, by the very nature of the business today, which is founded on the very best plays interpreted by the very best talent.

Along with the advancement of the plays and the players Adolph Zukor also encouraged the advancement of anything technical Better photography and better photographic equipment always received his unquestioned approval· better studios replaced the original barns and back lots

With Adolph Zukor Paramount pictures blazed a trail that will always be recognized as of inestimable value to the motion picture industry.

Agfa's New Three Color Photography Process

by
T S. Claire

THE STRONG RUMORS throughout the industry thot Agfa Ansco Corp ore about to launch a new three colar motion picture film seem to be bosed on o process developed in their European plant the lotter part of last year according to foreign newspopers

Late in October German newspopers reported this process os being perfected ond soon ready for the morket From these reports it would appeor thot the Agfa Ansco Corporation is olmost prepared to lounch into the Americon market According to a statement made by Hollywood officiols closely ollied with Agfa it will be some time before the film is ready for the American market They however report definite headway being made and some unusually fine test strips shot that show encouroging signs

In brief, this new color is somewhot similor to Kodachrome the one exception being that the color is put into the loyers of emulsion during the monufocturing process which simplifies the developing ond laboratory work Where Kodachrome is put through three separate dyes, Agfo color in the loborotory is merely given another stage of treatment in o chemicol which brings out the color ofter the first development of this reversal film is made

At the present stoge it is a reversible film, but it is claimed experiments ore going forward in the negative and positive method of picture work

Following is a liberol translotion of an article oppearing in o Germon newspoper of October 31, 1936

"As a result of years of labarotary research the I. G Dyestuff Industry hos announced a new color film process which promises to be an important foctor in the development of color photography

"The advontoge of this new process is that it is o substractive system which of course eliminates filters in both the toking ond projecting The color being in the print itself

"The process is bosed upan an old observotion mode in 1911 ond patented by Dr Fischer while working with the New Photographic Society of Berlin Dr Fischer found the following Instead of treoting a photographic picture with the usual developer, a certain group of developers is used to which is added certain substances, then olong with the usual precipitation of black-silver metal, a dyestuff is formed which is deposited on the particles of reduced silver The silver being dissolved by o reducer both, the result is o one-color picture Fischer, however, by this method could produce only one-color pictures, and so his method wos of no lasting benefit The patents in the meontime hove expired

"Prof Dr Eggert of the research laborotary of I G Dyestuff Industry carried out extensive experiments based on Fischer's bosic discovery, with the oim of producing a film of three loyers (blue, green and red sensitized) that when exposed to the developer would result in corresponding colorings in the finished film

"Working in conjunction with the color labarotories, this resulted in discovering numerous, complex substonces These, when merged into the photographic layer of the film, made it possible to produce pictures of more than one color

"These substonces had to hove particulor chorocteristics, they must not disturb the developing process, ond they must be transporent without bleeding or becoming turbid in their precipitotion Such substonces, really o contradiction in themselves, had to be solubie to be merged with the gelatin, ond insoluble so thot later washing would not affect them or wash them out again

"The result of many yeors of experimenting produced the following methods a multi-layered, colorless film is used whose sensitivity corresponds with that of present amateur reversible film and which possesses a rother wide latitude After the exposure the film is developed to a negotive in a normol developer ond in normol sofelight os used for panchromatic films Then the undeveloped remainder of silversolt is thoroughly exposed to doylight in order to moke ony remaining silver soluble This is fallawed by o second development in o soecial developer In this all of the color pigments are formed which upon inspection or projection produce the naturolly colored picture due to reversed color develapment of complementary colors in the three effective layers of film (o yellaw filter layer interposed is of no consequence) Of course there is not much of the picture to be seen at first os black silver is being reduced during this process, ond this mixed with the residue of silver of the negotive makes the whole film opaque Dissalving this silver naw with the usual Former reducer results in o picture completely free fram silver ond thus reveals all its colors

"The methods used previous to this mode use, in a purely technicol way, of the well-known foct that every color seen by the eye can be produced by mixing certain parts of the three primary colors, red, green and blue There ore twa fundomental means of doing this photographically One is called the subtractive method ond the other the additive method

"The additive method separates the naturol colors into their component parts of red, green, ond blue, registers these parts photographicolly and rejoins them in the projection of the film in their proportionote color value in accurate registration, so that the eye believes it sees the notural colors Since the additive method suffers fram light losses, it is difficult to obtain sufficient illumination in projection

"The subtroctive method daes nat shaw this foult As in color print technic, the film strip is composed of several superimposed picture layers in red, green ond blue By projecting these pictures, which register accurotely ond whose color volues blend in transmission af light thraugh them, o picture in natural colors can be obtoined

"By the new method the row film is composed of three layers, the first being blue sensitive (yellow component), the second green sensitive (red component), ond the third red sensitive (blue component) After its development in the usual manner, o negative of the film is obtained From this, by means of colored-reversol-development with a special developer, ond after re-exposure o picture in notural colors is obtained, which becomes visible after removal of the silver

"Though not all difficulties pertaining to the duplicating af 35mm motion picture films have been surmounted ond the colored paper print has up to dote mode no appearonce, the road to it, however, is open so thot the possibility is ot hond to use this method"

Alfred Gilks, A S C

There was the usual quota of carpet-baggers, promotors, get-rich-quick lads And many serious, constructive minds Then come the shaking down process, the levelling off The weak fell by the wayside, the strong survived There were consolidations, failures, mergers reorganizations—and out of it all come the solidly-established studio organizations of today

So in London The film industry there is having its growing pains It may make mistakes It may have its failures, losses successes and profits But out of the seething boiling-pot of sincere effort and much capital is sure to emerge a stable and well-grounded picture production enterprise

Much of London's film activity is on a remarkably substantial foundation and with an eye to the future I was on the picture 'Thunder in the City," starring Edward G Robinson, and produced by a comparatively young and small company, Atlantic Films Work was done at Korda's London Films studios at Denham

Here is a film plant still building that is equal in production equipment and facilities to any studio in the world, though not so large as some here The camera department is everything that any Hollywood cinematographer might desire They have all the tools one needs to work with

Lighting equipment is probably more modern and efficient than that of any Hollywood studio, due to the fact that it is all recently acquired, of latest pattern and design, with no antiquated units held over from earlier days

A laboratory is being erected—in fact, is probably now completed—that is to be a model of its kind It is scientifically designed in accordance with the latest accepted principles of processing procedure

Looking at London Cinematographically

by
Alfred Gilks, A.S C.

THERE'S NO DOUBTING Hollywood's interest in British film production Since my return from London some scant eight weeks back, I have been met on on all sides with the inevitable question, "How's the picture business getting along in England?" To all and sundry I have the answer, based on my own experiences and observations, that Britain's film industry is flourishing, developing and perfecting itself at a speed that is almost unbelievable

Yes, I know, there is an occasional poisoned barb of carping criticism heard hereabouts and even paragraphed for the press Most of these, I find, are from over-patriotic home-town defenders who haven't been east of San Bernardino for the past ten years They whisper of British pictures that have cost too much, of productions held up for story difficulties, of typical studio boners

Even if true, what of it? Seems to me I have heard of such things happening right here in Hollywood And Hollywood studios appear to be getting along fairly well, according to latest reports In fact, I understand the American film companies have done right well by themselves over a period of years, despite a now-and-then human error in pre-judgement

The general film situation in England reminds me of a very similar condition that prevailed here at one stage of the game A great industry was trying to find itself Big companies sprang up over night Small companies stretched a shoe string into gigantic size

They are taking fullest advantage of what Hollywood learned over years of trial-and-error experiment They are starting, so to speak, where we leave off They have already done in two brief years what it took us twenty to accomplish

There are many capable technicians in London—good sound men, good cinematographers, good electricians good cutters, good set builders But, under rapidly expanding conditions as now prevail, there is scarcely sufficient trained personnel to go around That's to be expected With every picture personnel is putting more experience under its belt and is developing accordingly

Production crews may appear to lack the co-ordinating team work that we have grown accustomed to in Hollywood That, too, is to be expected Our men have been working together for years They function like a well-oiled machine Give the British crews another year or two

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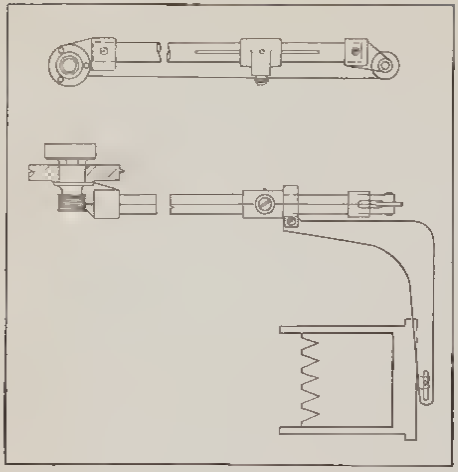

Device for Producing Variable Diffusion Effects

by
Emil Oster
Camera Executive, Columbia Studio

PHOTOGRAPHIC Diffusion has for many years been a fundamental part of dramatic cinema technique. A wide variety of diffusing media have been evolved, and are in use today—gauze netting, optical diffusing discs, and several types of so-called "diffusion screens." Of these, the gauze is perhaps the most frequently used. It is simple and inexpensive, and by varying the weave, fineness and color of the material used, a very considerable range of diffusion effects is possible.

All of these diffusers, however, suffer from one common fault: they are essentially fixed-purpose accessories. Once any given diffusion medium has been fixed in place on the camera, the degree of diffusion obtained cannot be varied without removing the diffuser and replacing it with another one.

With the modern directorial technique which, rightly or wrongly, places so much importance on camera movement, this is today a serious limitation. Frequently a cameraman may begin such a shot with his lens trained on a player or action which requires one type of diffusion, and then pan or perambulate to another which requires a greatly different degree of diffusion. For example, the scene may begin as a long-shot, after which the camera perambulates in to end the scene as a close-up of same player. It is axiomatic that a long-shot requires only a relatively light diffusion, while closer shots require a heavier diffusion.

What happens? The cameraman has three options—none of them entirely satisfactory. He may decide that the important part of the scene is the long-shot, and apply diffusion suitable for it. In this case, the close-up is improperly diffused, and unsatisfactory. He may, on the other hand, decide that the close-up is the more important factor, and diffuse for it. In this case, the long-shot will be over-diffused and, in proportion to the amount of diffusion required for the close shot, unsatisfactory. The third possibility is compromise. He may attempt to strike a happy medium between the light diffusion suited to the long-shot portion, and the heavier diffusion required by the close-up portion. In that event, neither phase of the scene can be wholly satisfactory.

A similar situation arises when it is necessary to pan from a close shot of a feminine player to one of a man. Nearly all women are best photographed with a relatively heavy diffusion, while men as a rule require little or no diffusion. The same problem must therefore be met: shall we under-diffuse the lady, or over-diffuse the man—or dare we compromise and photograph neither quite as they should be presented?

The only logical solution to these problems, which are met every day in every studio, is some method of imperceptibly altering the degree of diffusion while the scene is being photographed.

This has been possible, but not altogether practical. A few variable-diffusion devices have been commercially available for some time. But they have had two disadvantages. They are quite expensive. And they have been based on the principle of moving one or more graduated glass diffusion screens across the lens. The importance of the cost factor is obvious, especially where a whole studio's camera-equipment is to be considered. And it would not be advisable to attempt to operate with only a few of the devices, for when such an auxiliary is wanted it is wanted immediately, there is no time to wait for one to be brought, or for another company to finish using it. Few cameramen care to be restricted to one medium of diffusion for such shots, as it might be greatly at variance with the type of diffusion used throughout the rest of their production. Glass wedges of sufficient size to give a uniformly imperceptible blending between the two extremes of diffusion may also introduce a factor of bulk not easily accommodated in all camera-blimps.

This problem came to a head recently at the Columbia Studio during the production of a picture which J. Peverell Marley, A.S.C., was photographing. As a direct result of discussions between Marley and the writer, and in which most of the studio's staff Directors of Photography participated from time to time, a simple, economical and yet very practical variable-diffusion has been developed. It has been used on several productions with such success that it is now being fitted to all of the studio's cameras. The final design and construction must be credited chiefly to collaboration between Enzo Martinelli and John Durst, Head of the Studio's Precision Machine Shop.

The diffusing medium used at present is gauze, which permits an unusually wide range of possible effects. The essential principle of the device is simply dropping the desired gauze into the regular 2" slot in the camera's matte-box or lifting it out, as the case may be. The device is permanently mounted inside the blimp, and operated from

Continued on page 59

High Efficiency Reflector and Background Screen

by
Hartley Harrison
Optical Engineer

IT HAS LONG been realized that the ideal instrument for general lighting would be a unit which provided a light-source of large area, and which emitted a wide flood of softly diffused illumination. To meet this need, a variety of units such as banks of vapor-tubes or incandescent globes have been tried. In general, while each had its advantages, none have been lastingly successful. The vapor-tube banks were excellent in the days of orthochromatic film, but their virtually monochramatic light is not well suited to modern panchromatic and super-panchromatic emulsions. Banks of incandescent globes have not proven an adequate substitute, for instead of producing a genuine large area light-source, they massed a number of small, relatively intense light-sources.

None the less, the need for such a general lighting instrument has in no way lessened. Rather, it has increased, especially with the increasing use of natural-color cinematography. In color it is particularly necessary to maintain a definite overall level of illumination throughout a set in order to maintain a pleasing and natural relation between highlight and shadow illumination in a medium which (regardless of what process is used) has considerably less latitude than black-and-white. This lack of latitude renders it generally inadvisable to rely on the so-called "spilled light" from the spotlighting units to provide an adequate level of shadow-illumination. Moreover, the improved directional beams of modern spotlighting units have considerably reduced the amount of "spilled light" which might have been used for this purpose. On the other hand, the use of a large number of relatively small-source floodlighting units on the floor and overhead does not produce a natural-looking result.

Careful study of existing light-sources fails to disclose any which will give a large-area source of light, and at the same time be adapted to work with modern incandescent and arc lighting. It would seem possible, however, to employ the principle of **reflection** in conjunction with a single, powerful unit of either of these types, and effectively to produce the result of the desired large-area light-source.

The writer has for some time felt that something along this line would produce the desired result. Recently, in conjunction with lighting tests made by Roy Fernstrom, A.S.C., and the Dunning Color process, he has had an opportunity to put his theories to a practical test and to commence the evolution of equipment for use in lighting both interior and exterior scenes. The tests thus far made, while on a somewhat limited scale, decisively indicate a wide range of new possibilities.

The reflector used is made after the pattern of the familiar "venetian blind," with parallel blades of matte-surfaced aluminum. The unit may be made in any size desired, and supported on light metal stands like ordinary lamp-standards. The angle of the blades may be adjusted in exactly the same simple manner as an ordinary venetian-blind window-shade is adjusted.

Used on an interior set for general lighting, this unit would be put in place and illuminated **from behind** by a powerful unit such as a "Solarspot" which gives a uniform field of illumination. The blades of the reflecting unit would be adjusted so that the light falls on the lower side of each blade, and is reflected downward from that onto the upper surface of the blade below. From there, it would re-reflect forward into the set. Due to the double reflection from matte surfaces, the light cast on the set is of a desirably diffused character. Due also to this principle of reflection, the reflected illumination does not appear to come from a small-area light-source, but from a source equal to the size of the reflecting-screen. Assuming, for instance, that an eight-foot screen be used, the general light-source would be apparently eight feet square!

If a greater intensity of light be desired, it is a simple matter to use a more powerful lamp behind the screen. If still more illumination should for any reason be necessary, it is possible to gain further increases by focusing a spotlight on the lamp rail onto the front surface of the screen from an angle that gives a single reflection straight out into the set. With the screen illuminated from both front and rear, the result is a large-area light-source of very considerable power, which still maintains a desirable quality of diffusion.

Practical tests have indicated that this system has a very high efficiency, transmitting in excess of 80% of the light falling upon it. Lightings achieved with it have a remarkable plasticity: the diffused reflection, together with the large-area source, gives the smoothness generally associated with a flat lighting, but without the undesirably monotonous flat effect. There is a surprising, natural recession of planes.

Two good-sized units of this type should take care of the general and front-lighting of most ordinary sets. By position of units, and the amount of light thrown on them, and changing the angles of the reflecting blades, a very wide range of control of the intensity of the reflected light is possible. Thus with these two units, and a minimum of spotlighting units overhead for modelling purposes, the problem of lighting should be considerably simplified.

The same type of reflecting units can be used equally well for exterior scenes. In this case, however, the reflection would be from the front side, unless it was desired to augment the natural light with "booster" lamps placed behind the reflecting unit. Used outdoors, these units have several definite advantages over conventional reflectors. They are, for instance, much easier on the eyes of actors who must work before them, there is not the intense brilliance which so often has proved all but blinding to tender-eyed players. Nevertheless, the reflected light is of surprising photographic value. Tests have shown that much the same surprising effect many of us have noticed when photographing on a beach on a cloudy day: the light may not seem particularly strong visually, but unless due allowance is made for its actual potency, the resulting picture will be found to be more strongly exposed than expected. Using these reflectors also produces the same natural effects often obtained photographing on cloudy days. In these reflecting units in exterior photography, there is also the advantage that two or three of

Continued on page 61

Walker, Mate and Marsh Win Critics' Praise

by
Walter Blanchard

WITH LISTS OF "best" film performances of 1936 sprouting as plentifully as All-American selections at the close of football schedules the announced choices of the New York film critics carry weight and importance

These men are experienced and capable appraisers of pictures Their newspapers are large enough to permit and encourage the reviewers to speak their honest opinions regardless of outside considerations Being three thousand miles from Hollywood, they are detached from studio and personality politics policies and influences Theirs can be said to be an impartial attitude Technicalities concern them less than the entertainment and artistry content of the pictures offered for public consumption

This year, their selections have attained widespread publicity and public acceptance Newspapers throughout the country have given space to them The two major radio networks have aired them impressively

We are particularly concerned with the cinematography which conveyed entertainment and artistic values in degree to merit the awards of this group, cinematography being the medium of expression

Joseph Walker, A S C, photographed Columbia's "Mr Deeds Goes to Town" named as the best picture of the year

Rudolph Mate, A S C, photographed Walter Huston in Samuel Goldwyn's "Dodsworth," named the best actor performance

Oliver Marsh A S C, photographed the Luise Rainer sequences in M-G-M's "The Great Ziegfeld," named the best feminine characterization of the year

The New York film critics did not, this year, issue an award for outstanding cinematography, possibly from desire to remain aloof from the more technical aspects of picture making However, as the notable film and the two stars were imaged to them by cinematic processes, it is not unreasonable to assume that the cinematographers who fashioned the images contributed in degree to the award-winning scenes

To Messrs Walker, Mate and Marsh, therefore, may go by inference the palm for top-flight camera performances of the past year

Lensing of prize-taking films is getting to be a habit with Walker "It Happened One Night," which swept the field of awards for 1934, also flowed from his camera

When Mr Deeds came to Walker, there was no warning that a champion was to be fashioned True, the story was strong and Frank Capra was director But it was not dressed in lavish sets magnificent costumes, tremendous production values It was not a "natural" from a photographic standpoint It was a story rather than a pictorial, film

As result, Walker's achievement is the more praiseworthy He made much from prosaic scenic material It is eminently fitting that high acclaim should come to painstaking, conscientious effort with substance that of itself does not challenge and invite the cinematographer's top talents of artistic composition

Throughout the production Walker strove for photographic realism He sought to have the audience believe his story, and to believe his photography, not see it He employed no artificiality, no effects—other than in the fog sequences when he endeavored truly to depict atmospheric influences

In "Dodsworth," Rudolph Mate had a powerful and well-known dramatic story, superb sets done in typical Goldwyn manner—and Walter Huston

Now, Walter Huston is not of the eyebrow-waving school of cinema actors He does not go in for moustache-twirling nor nostril-quivering His is a strong, forceful character He is not a magazine-cover lad But he is, as you doubtless heard rumored, considerable shakes as an actor

Fully cognizant of these items, Mate treated him in manner quite unlike the out-of-a-pattern male star To have done as would have been fatal In glorious contrast to the atmospheric set lighting sometimes very brilliant, the theatrical lighting of Ruth Chatterton, the soft, feminine lighting of Mary Astor—Huston's rugged virile qualities are set forth in bold degree His face carries little light, often as not, is in shadow The full strength of the man is impinged on the film

In our November issue, after eyeing the picture in preview, we stated, "Mate reveals one of the finest jobs of masculine lighting in many moons" No subsequent development has caused a reversal of opinion

With Luise Rainer in the Ziegfeld opus, Marsh had his own quota of problems Her role, Anna Held, called for most precise handling Here was a character at once gay, colorful, glamorous exotic, and who as well carried the heaviest dramatic moments of the play Treatment could not be the brittle, brilliant illumination of Lillian Lorraine, nor the warm, womanliness of Billie Burke Nor would it be the exotic effect lighting given a Garbo

Marsh hit a happy compromise and consolidation His exact portraiture of her through many moods must be labeled one of the cinematographic accomplishments of the season

In this trio of laudatory screen achievements, it is again italicized that the true cinematographer spends his art to enhancing the visible art of others Never is the audience aware of the photographic medium bringing to them entertainment and artistic accomplishment

Had these three performances been **under**-photographed, audience reaction would have been that much less Had they been **over**-photographed, audiences would have been captivated by pictorial instead of dramatic art

And so public recognition goes to those whom the public sees The creator of the images which earned the recognition goes his way happy in the knowledge of a job well done

Only the observant technical spectator discerns the means by which a given stage performance is translated into notable screen performance

To many, the cinematographer is the unsung and unheralded artistically creative force of the picture business

Edward Cronjager, A.S.C., right (without hat) talking to director Sidney Lanfield.

Edward Cronjager--the Complete Cinematographer

by
Harry Burdick

EDWARD CRONJAGER is a Director of Photography with well-formed ideas concerning this subject of cinematography and makes no bones as to being articulate in regard to them.

A goodly number of films have passed on to the silver recloimers since Cronjager first started pointing lenses at aspiring actors. Indeed, he has photographed a number himself during the period extending forward a couple of decades from his early Biograph days at Fort Lee, N. J., and other points east.

Significant pictures have ever had the habit of aligning themselves before his camera. And then, in 1931, he did "Cimarron," the outstanding production of the year and many were the cinematographic awards that came his way.

In best Hollywood tradition, producers at once labeled him as a photographer of exterior spectacles. Defying the label, Cronjager turned his cameras on "Roberta," the first of the Astaire musicals, sandwiching a group of assorted comedies, dramas and such bric-a-brac.

He completely explodes the fallacy, tenaciously adhered to in some office corridors, that a qualified Cinematographer is perforce limited in abilities to a type of picture which he lensed in outstanding fashion. He is living contradiction of the policy of attempting to tie down practicing Cinematographers to any one classification of production.

A competent Cinematographer is wholly able to tackle any sort of a production that comes across the lot. He will turn out an oats opera, an epic of the open spaces, a musical, a conventional interior or a shuddery drama, with equal ease and proficiency. Cronjager feels quite strongly on this point. He has flatly refused to be tabbed and typed as is many an actor.

He drives home the pertinent premise that a Cinematographer is still a Cinematographer regardless of subject matter appearing before his camera. He delights in recounting experiences of fellow Cinematographers as supporting evidence, of one who was rated tops at exteriors who astounded studio executives by making interiors sit up and beg, of another who could presumably shoot comedy only but turned out one of the heaviest dramatic studies of the season, and so on.

Such camera versatility is not to be considered exceptional, he declares. It's all in the year's work. Underlying principles of technique are more far-reaching than some studio front-office occupants are inclined to imagine.

Just to keep his finger in the great outdoors, Cronjager went out with King Vidor to do "Texas Rangers." Through the wide expanses of Arizona, New Mexico and Texas, he carried out an experiment which proved decidedly useful. He carried along from location to location a portable darkroom. Some six feet square, it had facilities for hand developing and fixing of negative, and enlargement printing on paper.

Precise effects were called for. Considerable filtering entered into the problem. Against violently changing atmospheric conditions, he exposed a brief strip of film. This was at once developed and a 4x5 enlargement printed, just as one would film from a miniature camera.

He had developed negative to read and the enlargement to study for detail pictorial effect. Any over- or under-correction was at once detected. A worth-while expedient, he finds, particularly when the director is to be brought into consultation on matters of effect-lighting and effect-composition.

Cronjager solved another tricky situation when filming "One in a Million," featuring the skating star, Sonya Henie, now touring the exhibition halls. A sequence, you will recall, calls for Miss Henie to uncover her skating arts on

Continued on page 58

A.S.C. MEMBERS ON PARADE

• **Lloyd Knechtel, A.S.C.,** who has been Landoning it for these several years vacationed a bit at St Moritz from where he sends a few pictures and a bit of chat While in the Alps he watched the championship Ski-jumping Tournament, the ice skating tournament and the famous Cresta run where it is possible to travel 80 to 100 miles per hour on special built sleighs When riding these "bulletts" it is necessary to wear crash helmets, similar to football helmets padded thick with felt, aluminum guards for the hands and elbows and spikes for the toes of the shoes. Lloyd shot all of the winter sports in 16mm Kodachrome

• **Charles M. Herbert, A.S.C.,** has reached Honalulu on his return trip from the Orient where he has been "Marching for Time" While in China Herbert was quite sick so he has decided to take a leave of absence from the "March of Time" to recuperate and put his system back in working order after the miscellaneous foods he has devoured for more than six months

So soon as he finishes shooting his Hawaiian assignment Herbert will go into hibernation on one of the quiet beaches on the quiet side of the island

• **A.S.C. Members** not Parading Among those reported sick are Ray June, A S C, Fred Gage, A S C, Nick Musuraca, A S C, Dave Abel, A S C and Byron Haskin, A S C

• **Dr. C. E. K. Mees, A.S.C.** of Kodak Company is in Hollywood waiting a settlement in the maritime strike preparatory to going to Honolulu for a vacation While here Dr Mees will address the Society of Motion Picture Engineers at a special called meeting He will talk on the Historical Development of Photography, Including Recent Progress Illustrations will accompany the discussion

• **Fred Cooe, A.S.C.,** gets the very best tips on the races Mrs Gage and Mrs James Van Trees were headed for Santa Anita and wanted a bit of advance dope before they placed their money on the line The dopester hadn't made up his sheet for the day The ladies were in a hurry When he heard the dope was for ladies he figures anything would do He merely lets his pencil be his guide

Mesdames Gage and Van Trees rushed off to the races a bit late as the first race was apparently over They rushed up to the ticket window and placed their two dollars on No 6 The dope sheet said No 6 would win the second race They had hardly left the window when the race was over No. 6 was put up as a winner. It was a Bing Crosby horse, paying 160 to 2 Were the ladies delighted but all the time they thought they had been betting on the second race, whereas it was the first race What a dope sheet . and what a pair of ladies P S Bing did not have any money on his horse

• **Leo Tover, A.S.C.,** is in Sun Valley, Idaho, shooting the new Claudette Colbert Paramount picture with Wes Ruggles directing A small stage has been built on location so work can go on should the weather prove inclement

• **Gregg Toland, A.S.C.,** has been loaned by Goldwyn to Walter Wanger to shoot the picture "History is Made at Night"

• **Harry Jackson, A.S.C.,** signed a contract with 20th Century-Fox

• **Robert H. Planck, A.S.C.,** has signed a contract with 20th Century-Fox

• **Bert Glennon, A.S.C.,** has been contracted by David Selznick's International pictures

• **Roy Overbaugh, A.S.C.,** took complete charge of the camera department at Selznick International on Monday, January 25th, at the Pathe studios

• **Hal Mohr, A.S.C.,** now directing his first production at Universal is the nervous expectant father According to gossip columns the Mohr's (Mrs Mohr being the screen star Evelyn Venable, expect their second child sometime this spring

• **John Seitz, A.S.C.,** has been contracted by M G M to direct photography on productions at that studio

Continued on page 61

Lloyd Knechtel, A.S.C., at St Moritz, Switzerland. While this photo shows Lloyd standing upright, we have it on good authority that just previous to the snap and right after he was in a more embarrassing position. It is even rumored the photographer had to shoot at 1/1000 of a second . . . but that's only a rumor

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Edward Cronjager--the Complete Cinematographer

Continued from page 55

an expanse of ice frozen on a studio set She specified ice to be hard, smooth, lightning fast—and of course glistening like a mirror

The ice was duly made It was fine for Miss Henie's skates but not good at all for Cronjager's camera And from an elevated set-up the full network of refrigeration pipes were visible in all their horrid nakedness ruining the illusion

Cronjager studied this one for a moment and then called for the painting crew The ice surface was painted white, then flooded another inch and refrozen The white lining of paint in the ice killed the glare blanketed the mirror-like qualities and mercifully concealed the piping The result is captivating audiences everywhere

Currently, his cameras are turning on that new team of thespians who have so much to contribute to our dramatic cinema, namely, the Messrs B Bernie and W Winchell It's a musical and a thoughtful art department has furnished a night-club set done in gleaming white enamel and chromium It's very beautiful and very dazzling, a bit blinding

The entire picture is brilliantly lighted as befits its entertainment nature Under Cronjager's guiding genius it promises to add further luster to the Twentieth Century-Fox banner

Cronjager is a hard worker, his own task-master He is sure of himself and the photographic results he intends to place on his negative He has keen sense for artistic values on the one hand and, on the other, his responsibilities to the production office His talents are broad as to scope and he blithely jumps out of any threatened rut

He seems to draw more than his share of hard-to-photograph subjects as witness the "Sit Up and Live" set of numberless reflections and piercing highlights which is ceilinged and demands a fine balance of light But he appears to have all the answers at ready command Scenes flow past his camera in steady parade

He goes about his work with a strange mixture of grim determination and quiet enthusiasm He admits no obstacles He never loses sight of the commercial aspect of his product There appears no limit to his versatility He is the complete Cinematographer—in the fuller meaning of the term

Looking at London Cinematographically

Continued from page 51

of close working association and they'll click just as efficiently

Actual production differs but in little surface items from accepted routine here If you want a parallel you ask for a rostrum" All actors actresses extras or performers of any description are "artists" Light tests are "cynex strips" And just about the hondiest man on a set is known as the "chippie" He's sort of a stand-by carpenter, grip, jack-of-all-work

They are introducing that useful person we term the grip Instead, they now have more prop men and assorted workers of none too definite duties On location, electricians will handle reflectors The "chippie' will handle about anything—including a pot of tea

Sets are uniformly magnificent with no money spared to make them superb Hollywood production offices would swoon at the cost of many of them Furniture and furnishings are beyond description Priceless old authentic pieces from manor houses and estates

England is abundant in beautiful exteriors Stately trees, springy century-old turf gorgeous landscaping and gardens All are available close by the studios, the sort of thing we travel miles to get They can certainly have authentic backgrounds at little cost In this respect, they have much that we haven't

Of course, British weather is traditional The sun doesn't shine any too often, but when it does the countryside sparkles in rare beauty Last summer, production schedules were shot to tatters by inclement weather There simply wasn't any sunny season Even Londoners groused about it To use our own alibi, it was 'unusual"

But it caused interminable delays and necessitated construction of elaborate and costly exterior scenes on stages

I found working in London to be very pleasant Associates were congenial, courteous co-operative I saw no envy nor jealousy toward Hollywood or its representatives To the contrary most technicians have open admiration for our work and have an eager ear for ideas

London is full of familiar Hollywood faces Pop into the Savoy after theater time and you might as well be in any popular local spot Producers actors writers, directors, technical men—all having a great time and all, quite naturally very homesick

I believe there will be much more of this Hollywood-to-London commuting By plane and boat, it's only a matter of six or seven days, about the

some time that used to separate us from New York The interchange of talent is healthy for the industry For we, too, it is to be remembered, have learned from those who have migrated to our precincts

London is prosperous There's much building Hotels are jammed Picture theaters are doing a land-office business—and at prices ranging up to $3 00 per ducat Living expenses are correspondingly high to a temporary resident, at least twice the Hollywood scale

There can be no question as to London's permanency as a producing center They may seem to dive off the deep end on some of their lavish special productions, but they have already learned how to turn out commercial program pictures of acceptable appeal at a price that makes them profitable And that's steady bread and butter

There may be an explosion or two, and a batch of disappointed stockholders If so they will grin and bear it For in the inevitable shake-down a calm, well-ordered and substantial picture making center is coming

Device for Producing Variable Diffusion Effects

Continued from page 52

the outside by a convenient control

Inside the left-hand wall of the blimp, at a point even with the average normal position of the matte-box filter-slot, a short steel rod is mounted vertically In this rod, a slot is cut, this slot limits the vertical movement of the gauze-carrying part of the device A collar slides up and down on the rod, its travel limited by a pin which passes through the slot in the supporting rod Hinged to this collar is an arm which supports the gauze-carrier Being hinged, the arm automatically adjusts itself to any position of the matte-box necessary to accommodate lenses of long or short focal length

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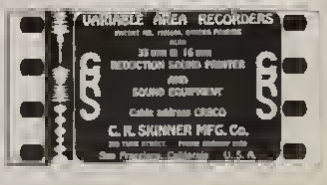

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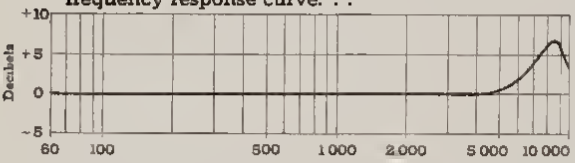

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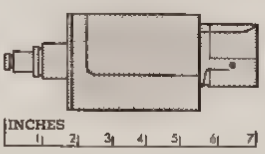

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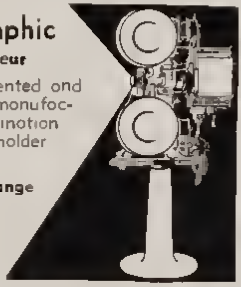

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of the operture, the frame is still engaged in the filter-slot

The whole assembly is moved up and down on the vertical rod (fixed to the blimp's wall) by an endless loop of wire which passes over grooved drums at the ends of the rod The upper one serves as a simple pulley The lower one, to which the two ends of the wire are fastened, is connected to a controlling knob on the outside of the blimp

The gauze is stretched across the metal frame in the usual manner The lower edge of the fabric does not extend to the end of the frame, and the gauze itself is frayed at this point, to produce a softly graduated blend Due to the slot-and-pin method of attaching the frame to the moving arm, the gauze-carriers may be interchanged as quickly as ordinary gauzes or glass filters The moving arm is swung backward on its hinge, and the gauze-frame lifted from the matte-slot, another frame, bearing a gauze of different texture dropped into the slot, and the arm swung back into place

In use, for instance in making a dolly-shot from an undiffused long-shot to a diffused close-up, the correct gauze for the maximum diffusion is selected and put in place Turning a small lever attached to the controlling rod forward, the gauze is lifted clear of the lens As the camera moves in for the close-up, this lever is swung backward—toward the operator This drops the gauze into place in front of the lens Since the bottom of the frame is open, and the lower edge of the gauze frayed, there is neither a sharply-defined line of demarcation as the heavier gauze drops into place, nor any abrupt transition from light to heavy diffusion This smooth blend applies even when a change from no diffusion at all to the diffusion of the heaviest possible gauze is made It is naturally possible to use this variable diffusion device with a separate, light-diffusion gauze or disc in place for the maximum-diffused portion of the shot, and to drop an additional gauze into place for maximum diffusion Due to the extreme range in the types of netting available on extremely wide range of diffusion combinations is of course possible It should also be possible to adapt the device for use with various types of diffusion discs, glass diffusion-screens, and the like, though these would have to be specially mounted Most of the Columbia cinematographers have thus far preferred the greater adaptability of gauze diffusion for the device As has been stated all of the studio's cameras are now being equipped with the device

High Efficiency Reflector and Background Screen

Continued from page 53

the units will suffice for most ordinary scenes, and since they fold so compactly, they will take up very little room for transportation to the location

A further interesting possibility is offered by an adaptation of this principle its use in background-projection process cinematography In this case the lower (rear) surfaces of the blades would have a matte white finish, while the opposite surfaces would have a specular or mirror-like finish The background transparency would be projected upon the screen from the rear, falling upon the white sides of the blades From these, the image would be reflected forward by the mirror-like upper surfaces On first thought, it would seem that the broken surface of such a screen would present gaps or overlaps, which would impair the effect of the projected picture as seen from the front, but preliminary tests show that with the blades in proper adjustment, this does not occur Projecting in this manner, on an essentially opaque screen, there should be no "hot spot" Furthermore, the reflected image appears to give a roundness and depth that should greatly improve the naturalness of the composite scene There is also the indubitable advantage of the high efficiency of such a screen it should work with an efficiency of from 80 to 90% or more

A.S.C. ON PARADE

Continued from page 56

● **Edward Cronjager, A.S.C.,** had a bit of stomach trouble while shooting the 20th Century-Fox picture "Nancy Steel is Missing" Barney McGill A.S.C., was assigned to the camera during Cronjager's absence

● **Charles Rosher, A.S.C.,** on his return from London was pressed into service by the R.K.O. studios where he is shooting "Escadrille"

● **Virg Miller, A.S.C.,** is shooting on the 20th Century-Fox lot

● **Arthur Miller, A.S.C.,** on his return from his brief winter vacation to the 20th Century-Fox lot was assigned to the new Shirley Temple picture

● **Georg Folsey, A.S.C.,** got into the finals of the Lakeside Golf Tournament by beating Bing Crosby

● **Don Clark, A.S.C.,** is another member who has been influenced by the flu germ Don's a resting

● **E. O. Blackburn, A.S.C.,** is on the sick list temporarily A bit of the flu seemingly invaded Beverly Hills

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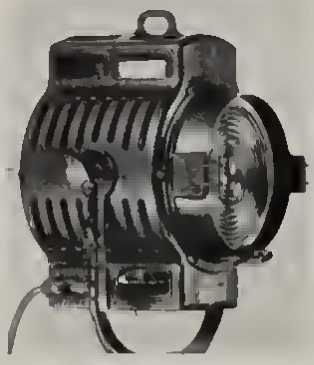

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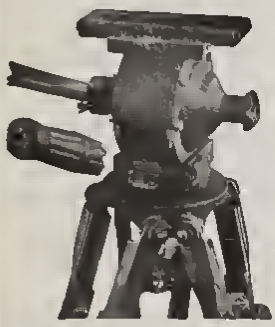

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• **Emery Huse, A.S.C.,** is exceptionally busy these days playing host to visiting executives from the Eastman Rochester offices Dr C E K Mees was the first to invade Hollywood More recently Ted Curtis and George Blair Curtis is here for his semi annual three months visit

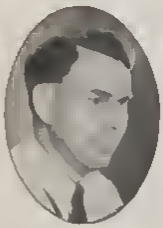
• **Paul Perry, A.S.C.,** although only returned recently from several years stay abroad has a yen to return to those foreign shores Paul maintains he will leave us within three months

• **Jimmy Howe, A.S.C.,** they tell us is clicking it off in fine shape over in London where he has been shooting constantly since he went over there

• **Johnny Boyle, A.S.C.,** has not been sending us post cards recently showing him in search of sunshine, perhaps he found a bit or then again he might be too busy

• **Frank Good, A.S.C.,** almost went to Alaska on a Sol Lesser picture, but last minute cancellation of picture for this year's schedule cancelled the trip Frank enjoyed his cold weather right in Hollywood

• **Academy Award** for photography is being handled differently this year There will be no write-ins according to the rules The winner will be among those nominated by the technical nominating committee The method is getting closer and closer to the technical members of the Academy If possibly should simmer right down to the cinematographers themselves as they are the most adequate to handle this phase of the academy recognitions



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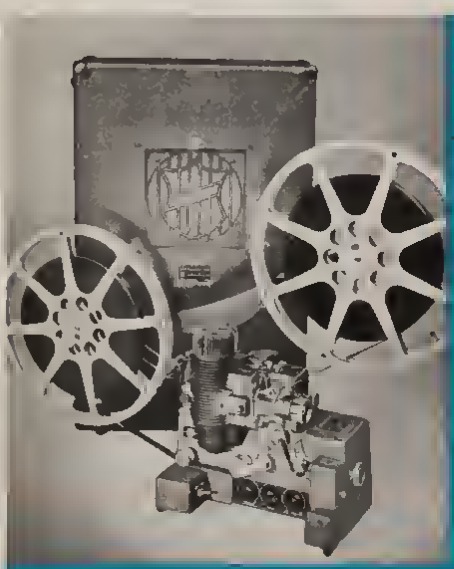

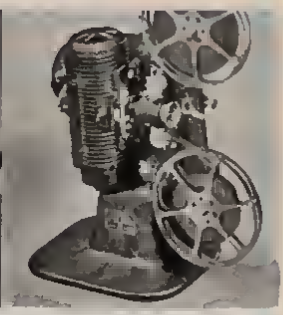

• *Left*—Filmosound 138—projects sound or silent film for moderate-sized audiences High fidelity sound reproduction. Capacity 1,600 feet of 16mm film Portable—packs in a single case. Filmosound 120 (750-watt) and 130 (1000-watt) for larger audiences

• *Center*—Filmo JJ—Gear driven 16mm projector. 750-watt. 400-foot capacity For 1600-foot capacity, see Filmo 129 (750-watt) and Filmo 130 (1000-watt)

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Next Month . . .

● **Frank B. Good, A.S.C.,** has prepared an article on the use of the camera Giving you a view point that will make you look at your cine filming in a different light

● Another A S C member is going to tell you something about lighting A discussion of background and foreground illumination will be the basis of this article

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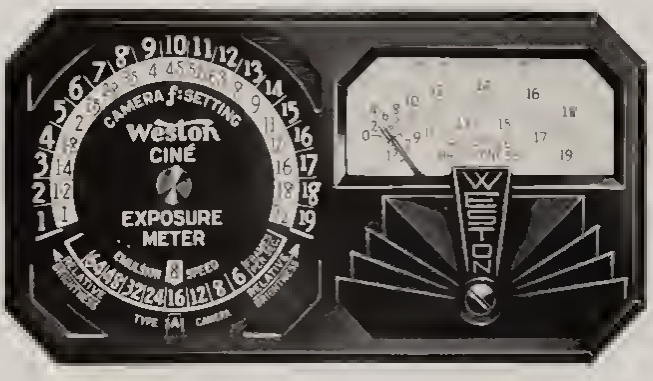

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Documentary Film Patterned from Prize Winner

by
Barry Staley

THE DOCUMENTARY FILM is an eminently satisfactory medium of expression for the cine-amateur But it should and can be much more than a celluloid scrap-book of events That it possesses wide latitude for creative and artistic treatment is evidenced by the international victory scored by Miss Ruth Stuart, of Manchester, England with her "Doomsday" a documentary film, which was by long odds the outstanding picture of the recently-judged contest sponsored by the American Society of Cinematographers

Here is suggested outline for such a film suitable for present shooting conditions Thoughtful selection of scenes is essential The characters shown must be interesting and colorful All must have a ring of utter sincerity There must be no pased shots Tempo is rapid Cuts are short and the entire film is veritably a montage of impressionistic flashes It will require a bit of prowling about to get such scenes You may shoot twice the footage to get what you need But it's prize-winning material for any camera

MAIN TITLE BLIZZARD

SCENE 1 LONG SHOT From Elevation A downtown business street A howling gale is driving snow over the already drift-edged thoroughfare CAMERA PANS slowly to intersection

SCENE 2 MEDIUM SHOT At the intersection Huddled on the sidewalk corner is a small group of pedestrians, bending against the swirling snow, awaiting traffic signal The passing vehicles reveal the storm's severity

SCENE 3 MEDIUM SHOT Pedestrians scamper across the crossing Those coming toward camera are shielding themselves against the storm

SCENE 4 CLOSE SHOT Women breathlessly running into shelter of store doorway

SCENE 5 CLOSE SHOT The traffic cop, dressed to buffet the storm

SCENE 6 LONG SHOT From middle of street The passing traffic, trucks, passenger cars, busses—steaming snow-laden bucking the blizzard

SCENE 7 MEDIUM SHOT Home-bound passengers standing in snow awaiting bus or surface car

SCENE 8 LONG SHOT The street car company's snow plow clearing the tracks

SCENE 9 LONG SHOT Plows on street and sidewalk keeping paths open

SCENE 10 LONG SHOT The mammoth rotary plow driven by a panting locomotive throwing a high screen of snow

SCENE 11 LONG SHOT A passenger train, showing storm strains, comes limping into the station

SCENE 12 MEDIUM SHOT A taxi bucking drifts

SCENE 13 MEDIUM SHOT A parked car, snowed under

SCENE 14 CLOSE SHOTS of snow drifting high against store fronts, fences and in poorer sections of town, homes

SCENE 15 MEDIUM SHOT In the tenement district A desolate street corner.

Continued on page 83

Patience

Top J Kinney Moore editing his picture Center the set up for creating wind effect and lights for night effect on interior Bottom supposed to be scene looking at steam gauge on furnace Note esbestes covered pipe end gauge with camere sheeting down

A TRICK PICTURE done in the studio with complete equipment is a matter of patience, painstaking mathamatics matching and devising that requires much time

With the limited equipment available to the amateur, in fact when he is compelled to do all of his work in his own camera, and in spare time—and then turns out a good job—he is to be highly commended

J Kinney Moore was given recognition in a new classification for his picture "Nite Life" in the American Cinematographer 1936 Annual contest This picture was made in Kodachrome throughout with most of the picture shot indoors

We will tell you about Moore lighting equipment, how he worked out some of the special effects and some of the trick photography he had in his picture

His opening effect while seemingly difficult when viewing it in the scene, was made by one of those surprising common sense methods

His title "Nite Life" is super-imposed over a moving color effect This effect is made up of lines apparently two or three inches wide on the trayidar 6 ft screen on which we viewed it They are on a slant They not only seem to move but to be changing colors Here is how Moore made that trick He set up his projection screen and directed his lights against that screen In front of the screen of course, far enough away so that it would receive the reflected light, he placed a piece of gelatine of varied colors secured from Male Richardson Co who furnish this material to the studios He took in practically all of this gelatine in his camera with its colored strips He then cut a small strip of the gelatine so that it contained all of the colors This strip does not have to be more than 1 or 2 inches wide Then as he ran the camera he drew this narrow strip across the lens As each color came in front of the lens it naturally affected each color on the big sheet of striped colored gelatine This not only gave the effect of movement, but as a smooth transitiin of one piece of color moving into the place of another color It was a very pleasing and a smooth effect admired by all who saw it

For one of his most brilliant sources of light Moore had a Senior Solarspot This intense light was especially necessary in some of his earlier scenes as he was at that time using the original Kodachrome which was very slow to artificial light as compared with the present Kodachrome A In his Solar Spot he used a 106 volt bulb, but burned it as 118 volts which gave him 7500 watts of light from this source

His other units consisted of 5 lamps containing No 4 photofloods He also built a special flood unit which is pictured on this page It must be remembered that Moore was lighting a large expanse for the use of Kodachrome One of his shots takes in two twin beds The other shots take in an entire bed

During one of the sequences there is a scene where he is supposed to burn his fingers on exposed electric wires This is followed by the burned fingers talking to each other and looking each other's burns over These fingers develop eyes, nose mouth and teeth

After registering his own fingers, Moore lap-dissolved into fingers he made from children's modeling clay One of the illustrations on this page shows the model fingers

Another difficulty encountered during the taking was to secure the explosions that brought the cat on and the other magic he worked For this smoke and explosion effect he used black powder and rigged up a spark coil and telegraph key

These are merely the high lights of the picture There were such things as split stage photography where he talks to himself, there was the scene where his spirit rises from the bed while his body remains there There is also the most amusing effect where the cat touches his foot with a pronged wand and the foot disappears and in its place is a skeleton of a foot, this changes into a chicken's foot and this into a crab's claw

This meant rewinding after accurately masking the foot

Keynote of Prize Picture

by
Karl Hale

off, then on the second shot it meant more rewinding to secure the lap dissolves to bring one thing over the other

Basically it meant that when Moore was shooting the original foot he had to measure accurately by his cross bars on his direct finder just where the foot come Then by this same means he had to place his skeleton, chicken's foot and crab claws in the right place

Moore tells of a lucky break with the crab claw He had it rigged with threads to make it open and close, but when he turned the intense lights on it it started moving of its own accord the heat creating muscular reaction The other items which have motion were all worked with threads

Let Moore tell you in his own words some of the trouble and some of the details he worked out in the making of this picture.

"On January 1st of last year, I resolved to make a picture that I would be proud to offer for your criticism and the resolution became a mania, and the result, 'Nite Life'

"For many years my spare time has been spent working out wild ideas in a rather complete combined woodworking and machine shop set up at home However a couple of years ago, I became interested in photography and bought an Eastman Cine Kodak Special For exercising the old grey matter, I found this medium about the best yet

"Knowing that this shop would be a great help with which any special equipment could be made I started by writing a scenario that would tax whatever ingenuity I possessed to the limit After spending an average of four hours a day for thirty days writing and rewriting the scenario, I began to wonder if I had not become a little too ambitious In fact, I had not the faintest idea how I would ever be able to do a large part of it But, the scenario was followed throughout almost to the letter and there is where I derived most of the pleasure of making the picture It was gratifying, to say the least to tackle what was, to me an impassible job and eventually figuring out some way to do it

"Since it was impossible to find anyone willing to put the necessary time into the work, I had to do everything myself even to most of the acting In the scenes where I appear, Mrs Moore was used as a stand-in while I set up for the shot She would then start the camera and it was disconcerting to try to act and at the same time signal Mrs Moore when to fade out preparatory to making a dissolve and other such manipulations of the camera I do not pretend to be an actor and feel that the picture could have been considerably better had it been possible to put the right person in my place

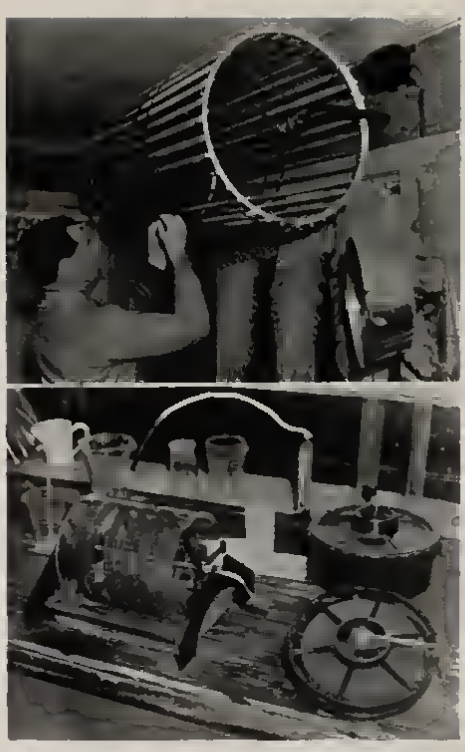
Top The fingers modeled from child's clay set Center showing fingers at end of board Note telephot lens and lights used Bottom Light in left foreground is a fixed made by Moore

This being my first attempt at anything like a planned picture I under-estimated the length of time that the shooting would require Started in February, it was not until the first of August although I worked at an average

Continued on page 82

Color in Black and White Films

by
Charles Clarke, A.S.C



Top Charles Clark placing film on his home made drying drum
Below The Leica developing drum at left and the Roto tank at right

BEAUTIFUL COLOR effects can be obtained from your black and white films by the use of chemical tones and dyes in a wide variety of combinations Everyone is familiar with sepia-toned prints which are simply black-and-white prints that have been immersed in a sulphide solution This converts the silver image into a sulphide one and so produces the warm brown tones that are very attractive in certain portraits and landscapes

With other chemicals it is possible to obtain blue, green and copper tones, and these, when judiciously used add immeasurably to the beauty of the original scene These color effects are so easily obtained, so simple and inexpensive equipment is used, plus the fact that no darkroom is required, that I feel more amateur filmers should know the process

While almost any photographic manual can supply endless formulae for compounding tones, it is possible to secure ready-mixed and concentrated products that require only the adding of water to make a solution ready for application In the long run these will be found the most convenient and economical

I can refer you to the Burroughs Wellcome Tabloid Toners which came in the four hues already mentioned Also to the concentrated dyes known as Soliod Photographic Stains in red blue yellow and green

Next is an apparatus to handle the film during the process of toning and dyeing The best I have seen is an outfit made by the Leica people, a developing drum of glass supported over a small and shallow glass tray Very little solution is needed Film may be viewed at all times to note the density of color These valuable features more than compensate for the limited amount of film footage that can be accommodated at one operation

For longer scenes— or a series of scenes, I use a Hollywood Roto-Tank Film lengths up to fifty feet can be handled The film to be toned is wound upon a reel and interleaved with a celluloid septum which is embossed with "bumps" along the margins so that the gelatine surface of the film is never in contact and is free to receive the solutions

With the Leica drum, the film lengths are short enough to hang up by each end from a clothes line For longer footage this will not suffice and hence a drying drum is needed I made mine from two bicycle wheels with strips of wood moulding attached about every 1½ inches around the rims The strips were varnished and a ¼ horsepower motor attached to complete the job

For toning or dyeing the procedure is simple and assures gratifying results The scene to be toned is carefully wound around the glass drum, emulsion out, and the ends securely attached As the film loosens when wet, it is important that a perfect spiral be made so that it may not overlap and cause uneven toning

The film on the drum is placed over a tray of clean water and washed for five minutes by slowly revolving the drum dipping into the tray If the film has been frequently projected it may have oil or grease on it This is fatal to toning and tinting In this event, wash the film in a weak solution of acetic acid to remove the oil and then wash in clean water

In another tray the proper amount of toning solution has been mixed It must be ample to cover the entire lower surface of the drum The drum with its film is then placed over the tray and slowly revolved until the desired color density is reached Usually this is a matter of a few minutes The drum is then placed over the water and the film thoroughly washed according to directions

If the film is to receive a combination of tone and dye the previously toned film is placed in the dye bath and revolved until the required amount of dye is absorbed Then a short rinsing in water and it is ready for drying All surplus water must be removed from the film, otherwise uneven spots will remain to mar the picture Film should be very carefully drawn between a well-soaked soft chamois skin from which all moisture has been wrung out just before use Do this carefully as wet film is delicate and easily scratched

After drying the film is ready for projection and perma-

Continued on page 78

Honorable Mention Extended to Amateurs

BECAUSE OF THE great number of really fine pictures entered in the annual International American Cinematographer contest those receiving honorable mention are frequently amateurs who have won high honors in other contests

It is generally conceded by the advanced amateur that an honorable mention in the American Cinematographer contest is equal to the highest honors in many other competitions.

From statistics we are able to gather it would seem that this contest attracts more worthwhile amateurs and has more entries than any other contest throughout the world Its authenticity, the organization back of it and the fact that the most noted film authorities act as judges have established it as the outstanding movie contest in the world

The judges not only have a professional background but are also experienced in the substandard films Most of the ace cinematographers shoot either 8mm or 16mm for their personal pleasure and for family records They know the limitations of the amateur equipment and have a full appreciation of what must be done in order to produce a good picture They do not expect perfection, they have not set any "arty" standards, nor do they merely look at the pictures and then "Such and such a picture is the winner" This sort of judging resolves itself into personal opinion and is not a yard stick by which merit can be established That kind of judging would merely permit a few individuals to display an egotism and not the fairness that the amateur might have a right to expect when he submits his work

The judging is broken down into the component parts of motion picture making Naturally the first point to be judged is photography as photography is the basis of motion pictures The photography is subdivided into exposure, lighting, composition Of course, with the amateur, panning, steadiness and such things must be taken into consideration

Then there is technique While to some it is a part of photography, still it overlaps into production, under this head we will consider the photographic angles, the photographic treatment to accentuate a scene or situation

If there is acting in the film such as in scenario pictures, this is given consideration together with the direction of the pictures

Titles and editing come in for consideration. but the prime importance is continuity A series of still shots not logically hinged together lack continuity and of course merely makes the picture a series of still shots put on motion picture film

The judging is done all at once This is another important angle as it is very difficult to carry the value of a picture over in your mind for weeks or months or even by record Things are comparative when they are in a class or in competition with each other and to fairly select the winner they must be compared with each other at one time

The making of a film for a prize contest, whether it be for the competition conducted by this magazine or for club contests, usually is very beneficial to those amateurs who enter their film

If they start out to make a picture for a contest they usually exercise more care, they give the picture, plot and execution more thought and the result is a better picture They learn to overcome certain weaknesses that have caused some of their other pictures to be less acceptable Or, if the picture is one the amateur has had for some time he will usually go over it more thoroughly, trim a bit here and there, possibly shoot an additional scene or two and properly title the picture It teaches him to make a more finished picture

Contests have created more advanced amateurs than any other individual means because there is a goal to shoot at and an incentive to make a better picture with the greatest reward generally being the satisfaction at having made a good production

Great Britain and Australia were very strong in the documentary class These entries remained in the contest right up to the very last day of judging Peculiarly they should have been beaten by a countryman of theirs, Ruth Stuart, who was given the Documentary award for her picture "Doomsday"

Two very fine documentaries from England were Paul Burnford's entry "Harvests of the Forest," and G H Heskith's "Slum Clearance" Burnford's picture was not only good from the documentary angle, but was very well photographed It showed the lumbering industry in England starting with the felling of trees and then through the mills and then to the things built of wood showing the most dramatic incidents

"Slum Clearance" was in 8mm It was a record of the tearing down of tenement houses of the old type and showing them replaced with modern apartment buildings Mighty interesting characters were shown, occupants of the slum tenements, children, etc A very colorful sequence was built up in the early part of the picture The latter part of the film is given over to the new homes and to suburban homes where the more fortunate of the slum dwellers moved A fine document and an interesting picture From Australia James A Sherlock sent 'Harbar," a picture in Kodachrome While the picture was well made, finely edited and cut, it suffered from uneven coloring and density Undoubtedly much was taken with the earlier Kodachrome which darkened rapidly after it was exposed if it was not rushed to the processing plant

Of the dozen pictures from Japan Horamu Yamamoto's picture "With My Dag,' and Fred C Ells' picture, "Consider the Lilies," were outstanding The Yamamoto picture was a record of a hike over the hills and the countryside with a dog Ells' picture was in color and had musical accompaniment with it While it was only about 200 feet its one drawback was the lack of titles, according to some of the judges A fine picture, finely photographed, sensitively conceived Titles were of tremendous value to his previous picture, "In the Beginning", it helped tie the various sequences together and injected renewed interest at intervals

Two 8mm pictures went far in their respective classes—Alon Vogel's "Rowdy's Guest" in the Home Movie class, and A Leitch's "Gun Play" in the Scenario class

Possibly one of the most ambitious entrants was Ernest

Continued on page 80

Musical

THIS YEAR in addition to calling for a wide range of musical moods, the prize films made unusual demands as to tempo Some called for simple, fairly sustained tempos of one type or another Others demanded a considerable variety of tempos And yet others it seemed would benefit definitely if shown to music which would apparently speed the tempo of lagging direction or cutting

The first requirement of a musical score for any type of film is simplicity The picture is the thing, the music, no matter how much it may enhance the presentation of of the film, is after all but an accompaniment and it must remain so Moreover, scoring amateur films with ordinary phonograph records calls for a score using as few discs as possible, so that the score may be performed easily None the less, the music should fit the mood and tempo of the picture as closely as possible

The first step in arranging such a score is to be completely familiar with the picture The only way to do this is to run and re-run the picture time and again, until you feel you know it almost as well as the person who made it Fix in your mind the dramatic keynote of the picture as a whole, then break it down into sequences, for each sequence will often make its own requirements as to mood and tempo, while the start and finish of the sequences will usually give you your cues for changing records At this point if you've a reasonably good sense of musical visualization, themes will begin to suggest themselves to you Try them out! Start the film at that point, put the record in place and see how the combination works Sometimes it will click together at the first try, sometimes you will have to try out another record—or records Often you may complete the scoring of the middle or the end or a picture long before you strike the winning combination for the earlier sequences In scoring "Night Life," I had 90% of the score for the second reel mentally outlined exactly as used finally, before I had even an idea for Reel I

When you have thus provided music for all or most of the film, try running sight and sound as a unit from start to finish This is the proof of the pudding—and it can be heartbreaking at times I could very cheerfully have abolished the capable Ruth Stuart at one stage of my scoring for I had arranged what I considered an excellent score for her "Doomsday"—and then, running through consecutively, discovered that she had 60 feet more film than I had music for! The final result was something entirely different from my original plan

Miss Stuart's film, however, finally used the simplest—and perhaps the most effective—score of all It needed only three 12" records—and by no means all the playing-time of those three records! From start to finish, one fundamental mood is maintained, one of ominous foreboding The film logically divides into three sections the beginning, slow and placid, with yet the restless undercurrent of foreboding the middle section, in which the same motif of foreboding accelerates to panic proportions, and the wild, panic-stricken climax The music, therefore, should follow a similar pattern, with its tempo slowly accelerating, yet definitely sped up at each of the major divisions The first record used was Part I of Ravel's "Bolero," as played by Serge Koussevitzky and the Boston Symphony Orchestra on Victor Record No 7251 As the teletype carries the news "People in panic—heaths blazing" to the city-dwellers, a definite jump in both musical and filmic tempo comes and the score goes to Part III of the same selection (Victor Record No 7252) Finally, as the moment of doom actually approaches, and the film shows people cowering indoors, or milling affrightedly outside, a wilder strain is played in Manuel de Falla's "Fire Dance," by Eugene Goossens and the Hollywood Bowl Orchestra on Victor record No 6869 (Album M-40, record No 31 This record incidentally, ends with an abruptness that can be synchronized perfectly with the film's over-abrupt conclusion

"October Byways" L Clyde Anderson's remarkable series of camera-paintings in Kodachrome, strikes an entirely different mood and tempo, and calls for a score of simple thematic simplicity Here the mood is pastoral, the tempo drowsy The music, like the autumnal colors should be subdued, yet rich I opened this score with Victor record No 7380—Sibelius' "Swan of Tuonela," played by Leopold Stokowski and the Philadelphia Orchestra Following this we play Wagner's "Siegfried—Forest Murmurs" ("Waldweben") by the Philharmonic-Symphony Orchestra of New York, directed by Willem Mengelberg (Victor No 7192) This selection covers both sides of the disc, and as exact synchronism is not vital, it is well worth while to use both sides After this we play Wagner's 'Traume' ("Dreams") as recorded by Frederick Stock and the Chicago Symphony Orchestra on Victor No 7123 As the people in the picture get into their car to return home, we can return to the opening theme, "Swan of Tuonela," to close the picture

The sole 8mm representative is an entirely different genre—a cheerful "home movie" It requires lighter music, yet something definitely allied with the picture's theme of "Two Kids and a Pup" Joseph Hollywood, who made this picture, has definitely divided it into four well-defined sequences This simplifies the scoring a lot For the beginning I suggest using "Fashionette" Brunswick record No 4199 Then, as the boy leaves the house to enjoy his first day with the new dog, there could be but one choice "The Whistler and His Dog" played by Arthur Pryor's Band on Victor record No 19869 The next sequence shows what the little girl did on her first day with

Music played by the world's most celebrated orchestras is available to the amateur who plays thematic records with his pictures

Mood and Tempo for the 1936 Prize-Winners

by
William Stull, A.S.C.

the dog. I don't imagine the dog enjoyed it, for she dressed him up like a doll. The treatment suggests something of saccharine sweetness, so my choice for accompanying music is something exaggeratedly sentimental. Nevin's "Mighty Lak' A Rose," as played on the organ by Lew White (Brunswick No. 4602). The next sequence shows the girl again trying to make a doll out of the pup, though it is rightfully her brother's turn to play with the dog. So I used an organ arrangement of "The Whistler and His Dog," played by Lew White on Brunswick record No. 4889. The earlier band arrangement could be used, but the organ record is especially apt for this sequence, as the dog is seen to bark protestingly—and the organist very conveniently produces several "barks" on his organ at just the right times to synchronize effectively! For the final sequence, in which the children argue over possession of the pup, and the question is amusingly settled by the dog running away after another pooch, the reverse side of the second record (Victor 19869) is used, this is "The Warbler's Serenade," and its whistling excellently suggests the children's excited calling to their pet.

"White North," Myron F. Pettengill's melodrama of the Canadian Mounted, called for some regular old-fashioned "movie-music." Most of this score had to strike a lively tempo. For the introductory titles and the opening sequence which "plants" the northern location, I used the first phrases of Louis Gonne's mazurka "Lo Czorine" played by the Victor Salon Orchestra on Victor record No. 20430. The next cue is a close-up insert of a sign which says "Last Chance Saloon." The succeeding shots show an accordian and a fiddle being played. This suggests the type of music to be used; my choice was an accordian duet by Rognor Sunquist and Eric Olsen entitled "Alv-Dansen—Va's" on Victor record No. 78888. (Some of these pressings seem to have been wrongly labelled, carrying the same label on both sides; if yours is like that be sure and use the "A" side—i.e. the side in which the number stamped in the disc itself is 78888-A.) But this cheerful little piece won't do when "Dogger Joe" and the gambler start fighting, so as the Indian starts to rise from his chair, the music changes to Part 2 of Ketelbey's "In A Camp of the Ancient Britons" played by A. W. Ketelbey and his Concert Orchestra on **British** Columbia record No. 9866. (This is to be found in British Columbia "Masterworks" Album No. 192 "The Music of Albert W. Ketelbey Album No. 2".) Incongruous as the title may seem for a north-woods picture, the music fits perfectly, for Part 2 of the record opens with music describing a battle between a Roman Legion and the Britons. As the picture fight ends, the music slows down, and when later the Indian ambushes and kills the gambler, this same record provides appropriate music for the death; for the fur-trader's discovery of the body, and, in fact scores the remainder of the sequence. As a title tells that news of the murder has reached the headquarters of the Mounted, Mr. Ketelbey again provides appropriate music this time No. 1 from his "Cockney Suite" "A State Procession, Buckingham Palace" which is in the same album-set British Columbia record No. 9860. When this disc has been played completely, we need yet more excited music. My choice was Mozart's "Turkish March" as played by the Vienna Philharmonic Orchestra on "His Master's Voice" (English Victor) record No. B-3188. The same general mood continues, so we can use Part 1 of von Suppe's overworked "Light Cavalry Overture", an orchestral recording of this would be preferable but as I had none, I used an organ recording by Quentin M. Macleon British Columbia No. 4645. Soon after the middle of this record a title tells that Dogger Joe chances a few minutes' rest, and to suggest that the "Mountie" is silently creeping up on him, I used "The March of the Smugglers," from Bizet's "Carmen Suite," played by Leopold Stakawski and the Philadelphia Orchestra on Victor No. 6874. With the murderer captured, the film ends rather swiftly, but if you wish you can go back to any of several previous discs for the capture and finish; either the "Turkish March," Ketelbey's "Camp of the Ancient Britons," or his "A State Procession" will do, though the "March of the Smugglers" is quite long enough to carry through to the end if you prefer less record-changing.

J. Kinney Moore's special-effects film, "Night Life" was in many respects the most difficult scoring-problem. The opening titles are spectacular, and require rather pretentious underscoring. On the other hand, one of the early sequences, when the husband comes home from his work dead tired, and dozes in his chair while the baby is put to bed, drowsy, slightly sentimental music is needed. And far much of the rest of the picture, sprightly, humorous music, with more than a touch of the "spooky" must be used. There are several points which can gain strength if the music is fairly closely synchronized with the action.

This score starts with "Dance of the Apprentices" from

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Cinematographers Have Language All Their Own

by
Joseph August, A.S.C.

EVERY PROFESSION, trade, occupation, vocation, calling and activity that endures over a period evolves a "shop talk," a potois of abbrevioted or slang terms adopted for the convenience of its practitioners Motion picture studios resound with a language strange and frequently wholly incomprehensible to outsiders Cinematographers are no exception For three decades we have been working with a new art, new materials and tools and processes constantly coming into use

It is perhaps, only logical that these new objects should be dubbed with descriptive and easily spoken names Many are picturesque some—alas—not printable in a family journal, all of them intensely useful For the benefit of countless amateur cine-filmers who may wish to have a working knowledge of the argot spoken by studio cinematographers in course of their daily work, I have compiled the following glossary of terms and their translations to lay language

ADDED SCENES Scenes written in and added to the scenario after the picture is completed to give better continuity

APPLE-BOX A handy box-shaped stool on which to stand when lining up from a high camera set-up

ARCS Any and all arc lighting units

ASSISTANT The Assistant Cinematographer

BABY CARRIAGE A dolly, a wheeled supporting base for the camera

BACK LIGHT Light coming from or placed in back of the subject photographed

BARN DOOR A device painted block fitting over the front of a lamp with two hinged shutters which can be adjusted to control spread of light rays

BARNEY A thick blanket that can be put over a noisy camera to make it silent

BEER BOTTLE An inferior or unsatisfactory lens

BEST BOY The assistant to a chief electrician

BICYCLE A dolly, a baby carriage, a wheeled tripod

BIG HEAD A mammoth, screen-filling head close-up

BLACK A gobo, a nigger on adjustable block plane used to block light from shining directly into the camera

BLANKET To quiet a noisy camera

BLIMP The silencing sound-absorbing cage placed over a camera, so named from the balloon-like proportions of early models

BOOM A movable crane carrying camera and operator, used in angle and follow shots

BOOM-MAN A wrangler, the assistant sound man on the set, handling the boom from which the microphone is suspended

BOOM SHOT A scene shot from a crane, or boom

BOX A camera

BROAD A broadside light unit usually containing two lamps, giving a soft light

BURN 'EM OUT The process of using lights to make undesirable facial features, wrinkles, blemishes etc., unseen to the film by the absence of tell-tale shadows

CAN The tin can in which film is shipped and stored

CELLO A diffusing slide placed in front of lamps

CLOSE-UP An intimate, greatly magnified view of one object only

COOL IT OFF To diminish quantity of light on an object which is too brilliant or "hot"

CROSS LIGHT A light playing on the subject from one or both sides

CUT (1) To stop camera (2) To edit and assemble film

DAILIES Rushes, the daily set of prints from negative exposed on the previous day

DOLLY A bicycle, a baby carriage, a wheeled tripod or support for camera

DOLLY AND SWING To move the camera on its dolly and at the same time to swing, pan or tilt it—to follow action

DOLLY BACK To move camera on its dolly back or away from the subject being photographed

DOLLY IN To move camera on its dolly in or toward the subject being photographed

DUPE To make a negative from a positive print, or a negative so made

EFFECTS Lighting effects that give an appearance to a subject that is not normal, as, a moonlight effect done in day time

FILTER Optical glass that filters or keeps out certain light rays, used in gaining effects

FIRST A first cameraman, or Director of Photography

FIRST BROOM Head property man, chief "props" boy on set

FLAT LIGHT Light falling directly on faces from the front or from behind the camera

FLOOD IT OUT To flood or spread out the light rays coming from a lamp unit

FLOOD LIGHT A light flooding or thinly covering a wide area

FULL FIGURE SHOT A scene taking in the full figure, head to toes, of an actor

FUZZY Out of focus (Which, of course, never happens!)

GAFFER A chief electrician

GAUZE Filmy material used to diffuse light from lamps

GELATINES Another means of securing diffusion, and color, to light

GLASS Lenses

GLASS SHOT A scene where a certain area, usually the upper is painted on glass and matched with the actual set Accurately placed close to the lens, it gains the impression of a huge setting

GOBO A block, a nigger, an adjustable block plane used to block off light

GOLD A reflector covered with gold leaf, casting a yellow, soft light

Continued on page 84

WHEELS OF INDUSTRY

New Weston Meter

● Weston Electrical Instrument Corporation announce a newly designed "Model 819" cine exposure meter In this new cine meter the "viewing angle" of the Photronic Cell is limited to 25 degrees, corresponding closely to that of standard movie camera lenses which generally cover a more restricted field than do regular still camera lenses As a result of the restricted viewing angle of the new meter, accurate exposure determination may be made from the camera position for a large majority of scenes

Also, a new "pre-set" type of exposure dial permits the user to set the film speed, frames per second, etc., in advance, and read the correct aperture directly from the dial without turning the disc at the time the shot is being made Operating characteristics of movie cameras which affect exposure may be compensated for in "pre-setting" the dial, so that there is no sacrifice in accuracy in establishing the proper aperture For example, certain cameras are known to have a greater angular opening of the shutter even though they operate at the same number of frames-per-second with the same type of lens The effect of this factor on the proper exposure for similar scene brightness conditions is taken care of in a "pre-set" dial adjustment, which need be made only once so long as the same camera is used

The new meter is similar in size and shape to the "Universal" type recommended for photographers who use both still and movie cameras

Leica Manual

● The second edition of the Leica Manual has been placed on sale This popular book based on miniature camera practice has sold many thousands of its first edition

The new printing, in addition to a great number of new photographs and illustrations scattered throughout the book, small changes and corrections were made in practically every chapter in an effort to bring the work up to date Old formulas were checked and corrected where necessary, typography of the formulas was improved and standardized throughout the volume and other arrangements were improved

A brand new filter factor table on page 95 offers the latest and most authoritative filter factors secured directly from film manufacturers and based upon most recent tests covering 19 films and 24 filters both for daylight and artificial light work

A new chapter contains description of three methods of making enlarged negatives, a procedure which is more and more in demand as the miniature camera technique grows

The chapter on enlarging papers and printing has been substantially rewritten and rearranged One of its most interesting additions is a table of comparative speeds on various projection papers

Tables of data for copying and reproduction, and formula were checked and corrected

A new 5000 word chapter on natural color photography has been substituted for previous chapter 14 It contains the latest available data on Kodachrome, three color separation, and the making of paper prints by the Defender Chromatone and Eastman Wash-a Relief Methods

First Candid Shots

● Back in 1886 Paul Nadar persuaded his father, Felix Nadar, to invite the famous French chemist, Michel Eugene Chevruel, to come to their studio Naturally the plan was to engage Chevruel in animated conversation and not let him realize that pictures were being taken The occasion was the 100th birthday of Chevruel, who was easily lured to the studio along with his bamboo stick and embroidered slippers During the lively conversation that ensued, Paul Nadar was able to expose unnoticed many plates in his box camera These photographs appear in the January 11, 1937, issue of LIFE magazine It was not until last October that the photographs came to light during a squabble between Paul Nadar, who at 80 still runs his studio in Paris, and the French National Archives over the ownership of the plates

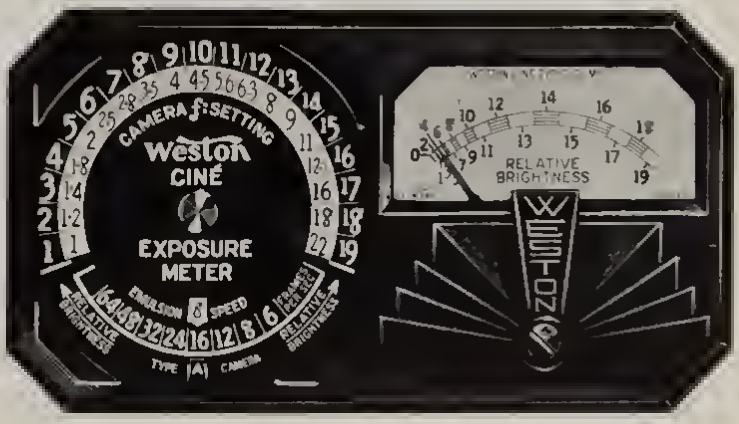
These photographs are truly remarkable in that they actually caught the various expressions of Chevruel and were quite a departure from the stiffly posed pictures of the day They are also more significant because Nadar made them with the cumbersome primitive equipment of that time and did not have access to the modern speed lenses and speed films that are so common with our present miniature cameras

Amateur Diary

● From England we receive a handy pocket size book titled Cinematographer's Diary of 1937 This is designed for the amateur and has much valuable information in addition to pages so made up that one can easily and quickly compile cine data on various films

The little book treats on exposure, films, lighting and other vital subjects Prices range from approximately 55c to 80c in England We do not know what price has been set on the American edition In art leather cloth the price

Continued on page 82



Musical Mood and Tempo for the 1936 Winners

Continued from page 75

Wagner's "Die Meistersinger," played by Albert Coates and a symphony orchestra on Victor No 9060. This carries on through the rather long series of Kodochrome introductory titles, and a black-and-white title crediting the cast. For the first sequence of the picture itself, I again called on Albert Ketelbey's genius for writing real "moving picture music," using "Quips and Cranks and Wanton Wiles" from his suite "Three Fanciful Etchings," played by the composer and his orchestra on British Columbia record No 9407. Toward the end of this sequence is a lap-dissolve from the man getting out of bed to his breakfast waiting in the dining-room. On the wall is a cuckoo clock, ticking off the minutes, reminding him he is late to work. So at this point the music changes effectively to Ketelbey's "The Clock and the Dresden Figures" (American) Columbia record No 50334-D. This ticks along merrily, synchronizing surprisingly well with the ticking of the clock on the wall. It continues through the sequence, to the fade-out. As the next sequence fades in on the husband returning from work in the evening, the music shifts drowsily to "Sonata Largo," played as a string bass solo by Serge Koussevitzky on Victor record No 7159. This continues almost to the end of the record; the next music-change cue is a close shot of the wife's hands carefully putting her shoes in place in the boudoir closet. The next scene shows hubby's shoes spinning off into a corner, and the music quickens to "The Gnomes March"—No 3 from Ketelbey's suite "In a Fairy Realm," conducted by the composer on British Columbia record No 9410. This piece can carry on until Mr Moore (who is his own star) gets into bed. Then the music changes to the Adagio movement of Tschaikowsky's "Sleeping Beauty Ballet Suite," as played by the Hollywood Bowl Orchestra on Victor disc No 6871 (Record 8 from Album-set M-401). As the steam-pipe sequence opens with a lap-dissolve from a medium-shot to a close-up of the furnace dial, the music changes to "Jungle Drums, Patrol," another record from the (British) Ketelbey Album No 2 (Masterworks set No 192) the number of the record is British Columbia 9862. This synchronizes excellently with the split-screen shots suggesting the pounding of the steam-pipes, and also with the actor's gestures of pounding his own head as he wakes. From the end of this sequence, the reverse side of the previous record—"La Fee des Lilas" from the "Sleeping Beauty Ballet Suite," on Victor No 6871—carries us not only to the end of reel 1, but through the first few scenes of reel 2.

As a shot of an owl against a dark-blue night sky introduces a new sequence, the music changes to Gounod's "Funeral March of a Marionette," played by Alfred Hertz and the San Francisco Orchestra on Victor record No 6639. This might have been made to order to synchronize with the action of this sequence; for the first phrases perfectly suggest the owl's "Who-o-a-o" which is animated on the screen, while the later parts of the record provide a perfect background for the close-shots of the man's bare feet as he nervously walks in search of what he thinks is a burglar. This music carries on excellently through the rest of the sequence—until the tired father is back in bed and a split-screen shot shows his sleep is troubled with memories of having kicked the cat. At the end of the long pan following this double-exposure shot, a new theme develops. It is also from the "Sleeping Beauty Ballet Suite" "Pas de Caractere—Le Chat Botte et La Chatte Blanche" ("Puss-in-boots and the White Cat") played by the Hollywood Bowl Orchestra on Victor No 6872. As the magnified, distorted image of the cat enters the nightmare, the music gives weird mews! This theme, however, is not used long; as the cat's strident voice turns on the light-switch the music changes to Brunswick record No 90048 Paul Dukas' scherzo "The Sorcerer's Apprentice" played by l'Orchestre de l'Association des Concerts Lamoureux Paris. This selection very conveniently takes care of the entire remainder of the picture—and synchronizes very effectively. It is in three parts, covering three sides of two records—Brunswick 90048 and 90049. It is possible to play this with only one set of the discs, turning the first one over as necessary, but it is much more convenient to have two copies of the first (90048) if you use a twin-turntable machine, so that you can change from one to the other without the break otherwise occasioned by turning the disc over. Properly played, this selection synchronizes unusually well with this part of the picture, even to a rhythmic "tum, tum, tum te tum te tum" excellently suited to the trick shots showing the sleeper's foot changed to a chicken's claw, flexing and un-flexing experimentally, and to a burbling bassoon solo as the burned fingers animate and talk.

In selecting the records for these scores, I have tried to keep as much as possible to records easily available in this country. Only seven of them are foreign; some of them are however available in domestic versions, though not always as satisfactory. Two of these—the "Turkish March" and "Light Cavalry," used in "White North" can well be replaced by domestic records of the same pieces. The remaining five, however, are a tribute to Albert Ketelbey's flair for writing atmospheric music; I know of no others so appropriate. They are produced by the British branch of the Columbia Co. and may be obtained on order through that firm's American unit. They could probably be obtained quicker from the large stock of the Gramophone Shop in New York, which is the outstanding record-importing house in the country. The His Master's Voice disc is made by the English Victor Affiliate, and may be had through the RCA-Victor Co., or the above importer.

These scores were planned for use on a non-synchronous, twin-turntable reproducer, and if possible should be played on such a machine. If the scores are to be played publicly as at a club meeting, I cannot too strongly urge a rehearsal of music and picture with your projectionist. If the picture is run faster than it should be, you will find yourself running out of picture before you run out of music, while if the projector runs too slowly, the much more serious problem of having too little music will give genuine trouble. In either event, sight and sound will not fit each other as well as they should. I personally have found a machine with a single volume (or "fader") control for both turntable preferable to the type with two faders; the changes between records can be made faster and more precisely. Above all, do not try to perform such scores on a reproducer that does not have a pilot-light! It is almost impossible to go through even a simple score in the dark satisfactorily. When these films and their music premiered before the Los Angeles Amateur Cine Club, I found myself up against this problem, and the sound part of the show was definitely not up to par, despite the polite denials of the club-members. A pilot-light and a clearly written cue-sheet for each picture should be considered quite as essential as the records themselves. It is also a very good idea to have a few extra records of light, but good, music to rush into the breach in case of film-breaks. It is surprising how a little music will shorten those long, embarrassing waits in the dark while the projectionist struggles with his film!

Color in Black and White

Continued from page 72

nent colors remain. Much variation and personal taste can be expressed in the coloration of scenes. The following suggestions may be helpful:

For woodland scenes, waterfalls, meadows, etc—a green tone.

For old buildings, pastoral scenes, interiors, portraits—a sepia tone.

For sunsets, sunrises, clouds—a blue tone and pink dye, or yellow dye.

For night effects made in the daytime—sepia tone and blue dye.

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For warm sunshine, exteriors—a yellow dye

For night scenes—a deep blue dye

For fire scenes, furnaces, camp fires, etc —a red dye

For woodland scenes, canal scenes, etc —a green dye

With close-ups of persons do not use the blue tone as it is unflattering to portraiture, use sepia tone instead

Too much color is worse than none at all Do not attempt to color every scene in a reel Just use it for emphasis Used correctly, it will make your reels doubly interesting Like most things, if overdone the attractiveness is lost

Chemical changes resulting from use of toning solutions can be utilized to improve the quality of scenes A blue tone has an intensifying effect, it makes weak, light prints considerably darker so that density is normal on the screen Thus, dark and dense prints should not be toned with blue It follows that scenes best adapted to these blue tones are those usually over-exposed, or too light on the screen, such as distant views, and seascapes

Sepia and copper tones have a reducing effect, especially the copper Thus, dense scenes are lighter after processing

After a bit of practice and experiment you may wish to venture forth and "double tone" some film, a process rendering beautiful effects This is a combination of blue-toning and sepia-toning The image is toned with sepia first After washing, the film is placed in the blue toner until the halftones are changed to blue

With certain scenes, this makes for a spectacular effect simulating color photography In one of my Mexican reels I have a scene of an old cathedral, opening with a reflection in a pool and panning up to the church backed by a sky of gorgeous clouds The reflection portion is toned green which melts into blue tone as the shot pans up to the edifice

The effect was gained by stretching the film on a length of 1x3 board covered with oilcloth The board was inclined with one end resting in a tray of green tone With cotton the solution was applied to the film, fully to the lower end of the scene but blending into a gradual fade-out of color during the length where the camera panned up After this toning was obtained, the film was rinsed, the other end of the board tipped in a blue tone bath and the process repeated with the blue tone overlapping the blend of the green.

After washing and drying, the film was projected and the screen shows a gradual transition from green to blue at the proper place in the scene This will suggest an endless variety of effects that may be given your films By using a block stain and the oilcloth board you may make fade-outs and fade-ins

Which provides a very suitable place for this article also to fade-out

Honorable Mention to Amateurs

Continued from page 73

Sawade of Brooklyn, N Y Sawade had six subjects in the contest, some in color and others in black-and-white

Other honorable mentions go to Harold Benner of Beverly Hills for "The Psychoanalyst", M R Armstrong Los Angeles, for "The Call of the Road", John F Criswell for "Boating Blues", H D Kern, Medford, Oregon, for "Our Scenic Wanderland", Duncan MacD Little of New York City for "Canoe Race", Lew Nichols of Missoula, Montana, for 'Colorful Yellowstone", San Francisco Cinema Club for "Club Picture", H M Armstrong of Cape Cottage, Maine, for "Skating Symphony", G F Baird and Win Proctor for "West of the Rockies", H B Hutchins, Kansas City, "Travel Talks" Hutchins' picture was sound on film in 16mm D J Frazier, Oakland, Calif., for "An Interlude in Happy Isles"; Dr G L Rohdenburg, New York City, for "The Spider", K A Utt, Bakersfield, Calif, "Rescue", J R Nickson, Chicago, "Yachting", J H Moyer, Cincinnati, "Down South", L R Cross, Pittsburgh, "Riding the River", T R Small Indianapolis, "Fine Feathers," a bird picture, J T Furst, Detroit, "Same People"

From other foreign countries other than those mentioned honorable mention goes to J O Floherty, Dublin, for "Over the Road", Joseph R Frentz, Berlin, "The Week End", Christopher Von der Boarn Holland, "The Lost Kronin", T R Bousche, Paris, "Making Champagne," and L R Schmitt, Austria, "1935 Vacation"

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Patience Keynote to Prize Picture

Continued from page 71

of four hours a day However, I did hit the nail right on the head in one respect The picture, I had hoped would run 800 feet In all, 4100 feet of film were consumed and after completely re-editing and cutting about a dozen times, it turned out to be exactly this length

"Doing the picture in color caused no end of complications In the first place the voltage in my home, where most of the action takes place, was inconsistent Then, on automatic water supply motor in the cellar would invariably go on at the wrong time causing the color of the light to change Then too the supply of electricity necessary to running an electric stove, was all I had available Since the regular sunlight balanced Kodachrome with which a third of the picture is made, has a Weston speed of about 1¼ with photofloods and filter it was a problem to get enough light even at f 1 9 In spite of that, one of the slow motion medium shots was made on this film, but the actor I met was practically blind for several days The very blue sensitive Kodachrome A came out at a speed of nearly 10 and from there on it was fairly smooth sailing

"I developed what I believe to be an excellent method of reading the exposure meter when shooting color Regardless of the color of the scene being photographed, if the reading is taken off of a light grey blotting paper, the chance for error is slight The light grey was selected because it gives about the same reading as the face of a brunet If something in the scene is more important than the face a little experience with reading off the blotter will tell the adjustment in exposure to make But the adjustment will not have to be more than possibly half a stop If the reading be taken directly off of some dark object, overexposure will probably result unless this method of reading is followed"

Wheels of Industry

Continued from page 77

is 2/6d Morocco grain Persian leather 3/, special brown polished croc calf 3/6d

A New Book

● "Photography," a new book authored by C E K Mees A S C Kodak Director of Research, is a general Review of the whole subject of Photography in a simple and popular style

The book furnishes a complete background for those who pursue photography, either as amateurs or professionals

The beginning of the book is the history of photography compact in one chapter Dr Mees then deals in turn with the manufacure of present-day photographic materials modern photographic practice the formation of the photographic image, the reproduction of tone values, cinematography the reproduction of colored objects in monochrome and in color, and finally describes some of the widely differing applications of photography as in astronomy the biological science medicine and dentistry, timing horse races and testing materials

Educational Short

● Based on epic films of the past the Covered Wagon" and 'Thundering Herd" and embodying several scenes from the current feature release "The Plainsman," this Bell & Howell educational short is named 'Spirit of the Plains"

It follows an original theme by Ralph Jester, that opens just as the Civil War ends President Lincoln is seen predicting to his cabinet that millions of demoralized soldiers will find new homes and new lives in the great untamed West We see the bustle of getting under way on the further shores of the Missouri River, the lonely trek across endless plains the bloody revolt of the Indian as his food supply is threatened in the slaughter of the buffalo then the cowboy on the open ranges, gradually confined as steel rails and barbed wire changed the way of the West Finally the combine-former of the great wheat lands finds his enemy in the terrific dust storms, battles courageously against odds indicating that the spirit of the plains remains absolutely undaunted

Cine-Kodak E

● From Rochester comes the announcement of the new 16mm Model E Cine-Kodak The supply and "take-up" spools of this camera work in the same plane

The view finder in the "E" is fully enclosed Within the view finder is a film footage indicator There is, also, the usual film footage meter on the side of the camera The "E" can be operated at three speeds—16, 32 and 64 frames per second Fully wound the motor runs for more than half a minute at normal speed

Standard equipment for the new Cine-Kodak E is the Kodak Anastigmat 20mm F 3 5 lens fixed focus

Park Film

● The Shenandoah National Park' is the subject of a new one-reel silent ma-

tion picture film prepared under the supervision of the Department of the Interior by the National Park Service and the Bureau of Mines in cooperation with a large industrial concern

Animated photography is used to show in the opening scenes the geographic location of the newest of our National Parks, its proximity to nearby cities of Virginia and the Nation's capital, the route of the scenic Skyline Drive over the mountain tops, and other routes within the Park

Panoramas from high points along the Skyline Drive of valleys and distant mountains, and other awe-inspiring views within the boundaries of the Park follow Picturesque CCC camps picnic grounds camping sites and other facilities for recreation are portrayed

In the preparation of this picture no effort was spared to present to the tourist the inspiring scenes and vistas that await him and the ease and comfort with which he may reach this wonderful area

Copies of this film in both the 16-millimeter and 35-millimeter size may be obtained for exhibition by schools churches, clubs civic and business organizations and others, from the Pittsburgh Experiment Station of the United States Bureau of Mines, Pittsburgh, Pa , or the National Park Service, Department of the Interior, Washington D C No charge is made for the use of the film, although the exhibitor is asked to pay transportation charges

Cine Service

● The latest entrant in the substandard film service field is the General Cine Service of New York City

This organization specializes on the negative and positive method as it is their belief it gives the owner a more permanent record of his pictures and negatives The negative as everyone knows permits as many prints as one may wish They store the negative in their fireproof vaults far future safety

General Cine Service is under the ownership of Mr L Brown who formerly was associated with Erbograph and Consolidated Film Co , two well known professional commercial laboratories in the 35mm field

35mm Printers

● A $200,000 order of motion picture film printers representing the largest investment in such equipment ever made by movie producers at any one time is now being shipped from the Chicago factory of the Bell & Howell Company Sixteen automatic sound and picture printers compose the shipment Paramount and Columbia are the purchasers and these companies will at once install the machines in their West Coast laboratories Metro-Goldwyn-Mayer is already using a battery of ten at these printers

Both the picture and the sound track are automatically reproduced on these machines at one operation retaining all of the depth and definition of the original film and without loss of the full range of the recorded sound As a result, pictures can now be released combining such photographic excellence and faithful sound reproduction that the most critical audience will be free to enjoy the new films as pure entertainment without making allowances for losses due to imperfect printing

Unlike the printers formerly used these machines are entirely independent of the skill of the operator Although running at higher speeds, these printers are equipped with interlocking controls and safety devices which make them entirely foolproof They will stop instantly and automatically in case of film breakage, lamp burn-outs, power-line variations, or failure of the air- and vacuum-supply lines which vacuum-clean the film while it is being run Film waste is thus entirely eliminated

Documentry Film Patterned

Continued from page 69

SCENE 16 CLOSE SHOT A woman —a slum-dweller—with shawl wrapped about head shuffles her weary way through the storm

SCENES 17 to 30 CLOSE SHOTS of character types—old men, women, children of this neighborhood—showing how the storm is hitting them Ferret out the different, colorful types—the weazened old fellow with burlap socks tied over his shoes, the soup kitchen line-up, a laborer gulping a steaming mug of coffee Illustrate with these characters the personal cruelty of the cold It is in this neighborhood the storm takes its greatest toll

SCENE 31 LONG SHOT A factory gate as working men and women emerge into the storm

SCENE 32 MEDIUM SHOT Employees' door a loft-building shop Women flit out and into the biting cold

SCENE 33 MEDIUM SHOT A car of ancient vintage steaming its way through the snow banked street

SCENE 34 CLOSE SHOT A stalled frozen car nosed into a drift

SCENE 35 MEDIUM SHOT An ice-crusted police car unloading a batch of poorly-clad, shivering hobos

SCENES 36 to 45 CLOSE SHOTS Workers in the storm The railroad switchman, the milk handler, the coal truck driver, the newspaper delivery wagon, the emergency ambulance, the policeman the locomotive engineer, the mail-truck driver, the phone company's trouble shooters, the bleak all-night lunch wagon

And for your ending, use a montage of newspaper headlines, flashing at vari-

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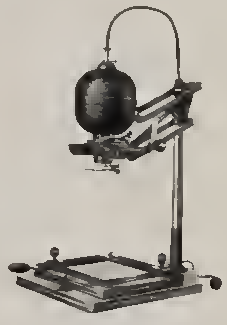

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When the winds blow or the snow falls, forage forth to the strange corners of your community That's where you will find pictures all costumed and staged for your camera Such a typical study will be of interest to audiences anywhere, any time

Studio Cinematographers Have Language All Their Own

Continued from page 76

GRIP A handy man about the set moves the dolly as needed

HARD LIGHT An arc light, or light coming from one

HEAVY An over-exposed negative

HIT 'EM Let us have light, switch them on

HOSE Electric cable on the set used to pipe in electric "juice"

HOT Too much light or brilliance on an object

INKIE An incandescent lamp

JENNY An electric generator

JUICE Electric current

JUICER An electrician

JUNIOR A sizeable light unit containing a 2 000 watt lamp (See Senior)

KEY Relative balance of light

KEY LIGHT The basic, establishing source of light

KILL 'EM Switch off the lights, save them

KNEE FIGURE A view of an actor from the knees up

LAB The film laboratory where negative and prints are processed

LAUNDRY The Laboratory

LAVENDER A positive print made on stock specially designed for the purpose, from which a negative is made, or duped

LIBRARY The studio's collection of stock shots, newsreel clips, and other views that may be cut into a picture

LIGHT TEST A strip of positive print showing the same scene printed under graduating degrees of light from the one frame of negative

LOAD To place new, unexposed negatives in a magazine

LONG SHOT An establishing shot a view of the entire set, a scene made from a distance

LUPE A small lamp affixed under and in front of the camera shining brightly into an actor's face to gain sparkling high-lights or catch-lights in the eyes First used with Lupe Velez

(This is the first of a series of articles dealing with studio shop talk of the cinematographer The second will appear in an early issue)

CORRECTION

Last month in reporting the prize winners we credited the Home Movie prize to Jocelyn Hollywood The name should have read Joseph Hollywood

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A JUNIOR SOCIETY

for the Amateur

THE AMERICAN SOCIETY OF CINEMATOCRAPHERS has organized a junior branch of its association for the amateur to be known as the SOCIETY OF AMATEUR CINEMATOCRAPHERS.

FOR MANY YEARS amateurs have been requesting the American Society of Cinematographers to form an organization for them that would be representative, authoritative and instructive.

WHILE IT WOULD be easy to form such an organization in the spirit of enthusiasm that usually accompanies such pleas, but to insure the continuance of such an association it needs real ideals and a constructive policy.

THE APPLICANT must own a camera, he must have made motion pictures, and he must submit a picture to the reviewing board which is made up of members of the American Society of Cinematographers. This does not mean that the amateur is going to be judged by 100% professional standards as practically every member on the reviewing board operates either an 8mm or 16mm camera and is familiar with the shortcomings of the amateur's equipment.

MEMBERSHIP will include a subscription to the "American Cinematographer". It will also include the use of the outstanding films made by members of the Society of Amateur Cinematographers. As films are submitted, the best will be duplicated and an analysis prepared by a member of the American Society of Cinematographers. This analysis will go with the picture and the picture will be available to any member of the Society of Amateur Cinematographers.

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